



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,104	12/10/2003	Yoshinobu Suehiro	PTGF-03067	8895
21254	7590	05/27/2005	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			PATEL, VIP	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 05/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

2

Office Action Summary	Application No.	Applicant(s)	
	10/731,104	SUEHIRO ET AL.	
	Examiner	Art Unit	
	Vip Patel	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-17 is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0104</u> . | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 112

Claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 5, line 4, it is not clear at all as to what exactly the applicant is attempting to claim with "and folding the inside portion of the cut".

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-5 are rejected under 35 U.S.C. § 102(e) as being anticipated by Roberts et al (US 6639360).

Regarding claim 1, Roberts discloses a light emitting diode (see figure 3B) comprising a ceramic substrate (14: last 2 lines of paragraph 57) having high thermal conductivity, a light emitting element (31, 12, see paragraphs 60 and 63), and a radiation plate (35) bonded to a back surface of the ceramic substrate (see paragraph 65). Note, the radiation plate would contact the ceramic substrate since element 33 is optional as discussed in paragraph 65.

Regarding claim 2, the light emitting element of Roberts is a flip chip (see figure 3B and 1st line on page 5).

Regarding claim 3, the radiation plate (heat sink) of Roberts folded in to wave form and is inherently of a metal since most heat sink are constructed from metal/aluminum due to its characteristic of transferring heat to surrounding air.

As per claim 4, the radiation plate of Roberts has a plurality of penetrating holes (see figure 3B; in between fins).

As per claim 5, the radiation plate of plate of Roberts is of metal (as discussed above) and is provided with a plurality of radiation fins (see figure 3B). As to the limitation of how the fins are made, limitations which are directed to the process of making the fins are not deemed positive product limitations. As such, no patentable weight has been given to such process limitations (see MPEP 2113). The product of the prior art as evidenced by the reference is obtainable by any suitable process of preparing thereof, the claimed fins.

Allowable Subject Matter

Claims 6-17 are allowed. Claim 6 is allowed since the prior art of record does not teach the claimed light emitting diode array comprising a circuit board including a through hole on which a plurality of light emitting diodes are mounted in combination with other features of claim 6. Claim 7 is allowed since the prior art of record does not teach the claimed light emitting diode comprising combination of a radiation plate extending in plurality of penetrating holes of a circuit board and circuit pattern of a ceramic substrate electrically connected to a circuit pattern of the circuit board at a bridged narrow portion including a through hole in combination with other features of claim 7. Claim 13 is allowed since the prior art of record does not teach the claimed light emitting diode comprising combination of a light transmitting resin that is filled in a space and a glass lens that covers the periphery of a light emitting element while leaving a space and a resin injection hole in combination with other features of claim 13.

Other Prior Art Cited

Chen, in US 2004/0124772, discloses a plasma display panel.

Art Unit: 2879

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vip Patel whose telephone number is (571) 272-2458. The examiner can normally be reached on Monday-Thursday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh D Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VIP PATEL
PRIMARY EXAMINER
ART UNIT 2879